The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EUGENE P. MARSH

Appeal No. 2005-0363
Application No. 09/594,171

HEARD: April 21, 2005

Before KRASS, BLANKENSHIP, and NAPPI, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 79-82 and 85-92, which are all the claims remaining in the application.

We affirm.

BACKGROUND

The invention is directed to a capacitor having an electrode layer of a platinum group metal film. Claim 79 is reproduced below.

79. A capacitor comprising:

a substrate having a trench;

a barrier layer disposed over a surface of said trench;

a first electrode in contact with said barrier layer at a sidewall region;

a dielectric layer in contact with said first electrode and said barrier layer; and

a second electrode in contact with said dielectric layer at a sidewall region, wherein at least one of said first and second electrodes comprises a uniform, essentially carbon-free oxygen annealed photo-decomposed platinum group metal film.

The examiner relies on the following references:

Summerfelt et al. (Summerfelt)	5,566,045	Oct. 15, 1996
Xing et al. (Xing)	6,090,697	Jul. 18, 2000 (filed Jun. 26, 1998)

Claims 79-82, 85-87, 89, and 92 stand rejected under 35 U.S.C. § 102 as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Xing.

Claims 88, 90, and 91 stand rejected under 35 U.S.C. § 103 as being unpatentable over Xing and Summerfelt.

We refer to the Final Rejection (mailed Jun. 18, 2003) and the Examiner's Answer (mailed May 14, 2004) for a statement of the examiner's position and to the Brief (filed Feb. 18, 2004) and the Reply Brief (filed Jul. 14, 2004) for appellant's position with respect to the claims which stand rejected.

OPINION

Appellant contends that Xing fails to teach, in terms of instant claim 79, that at least one of the capacitor electrodes comprises a "uniform, essentially carbon-free oxygen annealed photo-decomposed" platinum group metal film. However, the Answer sets out a reasonable case for prima facie unpatentability of the instant subject matter that appellant has not shown to be in error.

Xing shows a capacitor structure in Figure 3, described in particular at column 5, line 53 through column 6, line 26. Xing discloses forming electrodes of platinum. In the embodiment of Figure 3, the thickness of bottom electrode 304 ranges from 10 to 50 nm, but "preferably about 20 nm." Xing describes a single thickness, rather than irregularities ranging from 10 to 50 nm. See, e.g., col. 8, ll. 19-23.

We thus disagree that Xing fails to teach that the platinum layer does not have a uniform thickness, as suggested by appellant at page 8 of the Brief. Appellant has not shown that Xing somehow requires formation of a non-uniform electrode. Nor, for that matter, has appellant shown why an artisan would want to form an electrode that is not uniform. Moreover, appellant has not considered all the evidence. Appellant points to

column 10, lines 30 through 34 (Brief at 8) and contends that Xing discloses a step of forming a platinum layer "by conventional sputter deposition." The relevant section of Xing, however, merely states that the platinum electrode layers "can be" formed through sputter deposition, rather than making sputter deposition a requirement.

Appellant also argues that Xing fails to teach that the electrode layer is "essentially carbon-free." The examiner provides several reasons why he finds the layer to be "essentially carbon-free." Moreover, the reference appears to be silent with respect to any carbon content in the platinum layer. Appellant has not shown that Xing somehow requires some content of carbon that is greater than "essentially" free.

The final language in controversy relates to the process limitations of "oxygen annealed" and "photo-decomposed." As appellant suggests, process limitations may serve to distinguish over a prior art product. However, process steps per se cannot serve to limit the product claims. See In re Stephens, 345 F.2d 1020, 1023, 145 USPQ 656, 658 (CCPA 1965) ("We think it well settled that the presence of process limitations in product claims, which product does not otherwise patentably distinguish over the prior art, cannot impart patentability to that product.").

The relevant inquiry is how the process recitations might define structure. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1969) (recitation of "interbonded one to another by interfusion between the surfaces of the perlite particles" construed as structural limitation in product claim); In re Dike, 394 F.2d 584, 589, 157 USPQ 581, 585 (CCPA 1968) (no error in USPTO board holding that term "blow-

molded" in claims drawn to integral plastic container and handle failed to distinguish over prior art, because term related to process of making the article, and was not definitive as to the structure of the article).

Appellant has demonstrated, at most, that Xing does not teach appellant's novel process (claimed in U.S. Patent 6,204,178, which issued from the parent application). Appellant has alleged, but not shown, that the novel process results in a product that differs from that disclosed by Xing. If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Appellant's burden was to prove that the prior art products do not possess the characteristics of the claimed product. See id. at 698, 227 USPQ at 966 (once prima facie case is established, burden shifts to appellant to prove that the prior art products do not necessarily or inherently possess the characteristics of the claimed product).

Appellant contends there are three groups of claims separately patentable (Brief at 7). We select claims 79, 81, and 85 as representative, and claim 88 as the representative claim in the § 103 rejection over Xing and Summerfelt. See 37 CFR § 1.192(c)(7) (2003).

Appellant relies on the same arguments, that we find unpersuasive, in defense of claim 81. With respect to claim 85, appellant submits that Xing fails to teach that the platinum group metal film is oxidation resistant. We would expect, as the examiner

finds, that oxidation resistance is an inherent characteristic of platinum. In any event, Xing teaches that platinum is "oxygen-stable" (col. 1, ll. 51-54), which is sufficient to meet the unspecified "oxidation resistant" aspect of claim 85.

With respect to the § 103 rejection over Xing and Summerfelt, we note that appellant again fails to consider all the evidence. Appellant contends (Brief at 15) that Summerfelt, "like Xing," uses conventional sputter deposition methods to form the platinum layer, referring to column 8, lines 26 through 29 of Summerfelt. The relevant section, in actuality, says that MOCVD (metal organic chemical vapor deposition; col. 6, ll. 40-48) is preferred over angular sputtering.

We have considered all of appellant's arguments, but find them to be unpersuasive in view of the examiner's evidence, reasoning, and response set forth in the Answer. We sustain the rejections on appeal. We consider Xing and Summerfelt to be sufficient to show prima facie unpatentability of all the representative claims. We have not considered the "Ruska" reference that is addressed in the Answer, as it was not listed or used in the initial statements of the rejections.[1]

CONCLUSION

The rejection of claims 79-82, 85-87, 89, and 92 under 35 U.S.C. § 102 as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over

[1] See In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection.").

Xing, and the rejection of claims 88, 90, and 91 under 35 U.S.C. § 103 as being unpatentable over Xing and Summerfelt are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

ERROL A. KRASS
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

ROBERT E. NAPPI
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037